## **ABSTRACT**

In a cable modem system, signals are transmitted upstream from a cable modem (CM) to a cable modem termination unit (CMTS) when the subscriber desires to communicate with the headend. The invention described herein is directed to a method and apparatus for increasing the communication channel between the CM and the CMTS. This is accomplished by providing a method and apparatus for increasing physical layer flexibility in cable modem systems. In this manner, the CMTS is capable of assigning burst profiles and granting mini-slots to the CMs according to the CMs' burst profile and robustness level.

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